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SOME ECONOMIC ASPECTS OF THE STRUCTURE
AND ORGANIZATION OF SMALL SCALE
MARKETING SYSTEMS - MARKETING
OF FRUIT AND VEGETABLES
IN KENYA

by

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Discussion Paper No.176

ABSTRACT

This paper examines the economic aspects of the structure and organization of small scale marketing systems for fruit and vegetables in Kenya. The main findings are that the marketing systems are generally inefficient and that the government should consider measures to improve them. The paper also discusses the role of the government in the marketing of fruit and vegetables.

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Any views expressed in this paper are those of the author. They should not be interpreted as reflecting the views of the Institute for Development Studies or of the University of Nairobi.

I.D.S. Discussion
Paper No. 176.

SOME ECONOMIC ASPECTS OF THE STRUCTURE AND ORGANIZATION OF SMALL
SCALE MARKETING SYSTEMS - A DISCUSSION OF THE RESEARCH FINDINGS
OF A STUDY INTO THE MARKETING OF FRUIT AND VEGETABLES IN KENYA

By

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ABSTRACT

This paper puts forward the case for much more research attention in the area of small scale marketing systems. The main findings of an investigation into the structure and efficiency of the internal marketing system for fruit and vegetables which concentrated on the dominant urban markets and six case study areas (selected from the Special Rural Development Programme areas) are discussed.

The paper concentrates on distilling some of the main findings under the following headings.

- (i) Structure and Organization of the trade.
- (ii) Transportation.
- (iii) Margin Analysis.
- (iv) Processing.
- (v) The Role of Government.
- (vi) Co-operatives.

The urban market studies concentrate on Nairobi, Mombasa, Nakuru, Kisumu and Nyeri. The role of Government is analysed at a number of different levels. The distinction is made between overall and partial control measures on the trade and aspects of grading and standardization and market information are also critically reviewed. The summary of the main findings with respect to the rural marketing systems are based on field work in:

- (a) Vihiga Division of Kakamega District.
- (b) Irianyi " " Kisii "
- (c) Kiharu " " Muranga "
- (d) Yatta " " Machakos "
- (e) Three locations in Kwale District, and
- (f) Wundanyi Division of Taita District.

INTRODUCTION

".....an African market is one of the most uncomfortable and inconvenient places in the world in which to conduct respectable field work - the difficulties are the extreme fluidity and complexity of the undocumented situation and the need to trouble informants at their moment of maximum anxiety, when they are concluding transactions."¹

This statement is an adequately succinct indication of one of the main reasons why research into small scale marketing systems has been relatively neglected. It is far from the most glamorous and attractive research area and has little appeal to the more theoretically inclined. It is nevertheless an area into which much more research is required and about which much more data could usefully be produced on a continuing basis. This paper attempts to demonstrate the significance of this area of enquiry through drawing on some relatively recent research into the marketing of fruit and vegetables in Kenya.

MARKETING - A NEGLECTED AREA OF RESEARCH AND ITS ROLE IN RURAL DEVELOPMENT

It is not uncommon, particularly in government reports, to find reference to marketing 'problems' or 'difficulties', often with the explicit suggestion that these constraints have a limiting effect on the commercialization and overall development of a particular part of the agricultural sector. Clearly in this type of situation a 'marketing problem' may exist, but its possible solution calls for a much more rigorous analysis within the marketing sphere than has often previously been carried out, in order to identify just what is the real nature of the problem. Without this sort of analysis, it is, for example, all too easy to attribute low producer margins to an imperfect distributive system rather than to the slow growth of the market due to strong competition from suppliers elsewhere. This may lead to government involvement or interference in one aspect of the marketing system when its attention could be more usefully directed to another. Alternatively a too hasty decision that the cure for a particular marketing problem is (for example) tariff protection against competing imports, may stem from a failure to adequately appraise the different links in the marketing chain. The main problem may be one related to transportation costs, poor quality produce or inadequately organized primary collection and buying procedures.

1. Polly Hill "Markets in Africa" review article in Journal of Modern African Studies, No. 1 1963 p. 444.

A Neglected Area of Research

The question as to whether marketing is a neglected area of research in developing countries depends very much on the type of products concerned. In the past more attention has been paid to studies of the marketing of export crops than research into the marketing of internally consumed food items. This is not to suggest that enough research has been carried out on the former; in East and Central Africa for example there has been relatively little. As far as the marketing of crops for internal consumption is concerned, the comments of Jones in justifying the series of studies initiated by the Stanford Food Research Institute in the mid 1960's are illustrative:-

"Several of us at the Food Research Institute who had for some years devoted our principal research efforts to problems of economic development in tropical Africa found our studies increasingly frustrated by the very little that had been written about the food-marketing systems I became convinced that the reason so little had been written was simply that so little was known."²

It is of interest to consider the Government's position both as an initiator of research and as a user of the results of independent studies. Governments' reluctance to pay more attention to some aspects of marketing - particularly marketing organization and infrastructure - can be at least partly attributed to a dearth of the sort of basic research studies through which the systems can be critically appraised. Abbott³ has stressed the neglect of marketing which he has observed in connection with new projects:

2. William O. Jones, in foreword to Marketing of Staple Food Crops in Tropical Africa: Overall Analysis and Report, Food Research Institute, Stanford, May 1969.

3. J.C. Abbott - Marketing Studies, Organization, Methods and Services for development and settlement areas. Monthly Bulletin of Agricultural Economics and Statistics, FAO May, 1964.

"There is substantial evidence that unawareness of the importance of marketing in the preparation and development of such projects have gravely prejudiced their chances of success."

One of the main justifications for increasing the amount of research into marketing structure and organization is as a means of objectively assessing government's role in varying degrees of involvement in the marketing process. In his classic critique of marketing policy Allen⁴ has commented that -

"Public intervention in agricultural marketing has too frequently adopted completely unsuitable policies to deal with real problems: technical efficiency has been confused with economic efficiency and superstructures have been imposed on marketing industries which have done little to eliminate the wastes of existing systems of marketing."

This appears particularly pertinent with respect to crop and livestock products produced mainly for internal consumption and to which Government intervention measures have as yet been only partially applied. The initiators of the inventory studies in the Special Rural Development Programme areas in Kenya pointed correctly to the paradox that in a country with a relatively highly organized agricultural marketing system marketing problems in many of the survey areas were nevertheless critical.⁵

Marketing and Rural Development

As an agricultural sector develops, it makes more and more demands on the structures and organisations through which and by which produce is collected together, transported and processed. Insufficient attention has been paid, however, to identifying and removing those constraints on development which arise not only from the inadequacy of the market, but also from the inefficiency of the system of marketing.

4. G.R. Allen - Agricultural Marketing Policies. Basil Blackwell 1959. p. 175.

5. J. Heyer, D. Ireri & J. Morris - Rural Development in Kenya, East African Publishing House 1971. p. 9.

Typically, the developing agricultural sector is made up of large numbers of small scale producers. In the long term, the success or failure of all development initiatives which are geared to increasing marketed output from individual producers, depends on the producer's reactions to the price he receives for his output and the conditions under which he markets it.

It is not unreasonable to suggest - at least on Kenya experience - that it is the very significance of the technical improvements called for on the production side which has led to a neglect of the structure and organization of the system through which such crops are to be marketed. Thus, although it is not justified to refer to a 'production bias' - at the expense of marketing - there does appear in some cases to be an obvious imbalance in the allocation of research and advisory resources. The price received by the individual producer, assuming no intervention, is of course determined by the interaction of supply and demand; that is, by the rate of growth of the market relative to the overall supply of the product and its close substitutes. Although clearly this interaction determines the long term prospects for the producer, other forces more closely related to the efficiency with which his product is marketed come into play. These forces determine marketing margins and hence what is often referred to as the producers' share of the final selling price.

In seeking to clarify and isolate the main features of an apparently inefficient marketing system some researchers have drawn attention to the unequal bargaining power between different parts of the marketing chain. Drucker, on the other hand represents the point of view of those researchers whose studies indicate that inefficiency is related to the undeveloped nature of the distributive system as a whole rather than by exploitation of one part by another.⁶

Buyer and/or seller concentration and the opportunity this gives for exploitation of the producer or the consumer is arguably a product of an under-developed marketing system. The characteristics of such a system; inadequate market information, acute seasonal gluts and shortages, badly organized primary marketing and restricted transport facilities are the very same conditions within which concentration and exploitation can be expected to develop. An efficient marketing system which adequately reflects consumer preferences and which transports converts and distributes produce at the least cost consistent with meeting the

⁶ Peter Drucker Marketing and Economic Development. Journal of Marketing, January 1958, pp. 252-259.

classical utilities of time, form and place is a development catalyst which pulls resources not only into its own area of economic activity but also into the primary production sub-sector which it serves. An inefficient system has the opposite effect; it masks the realities and distorts resource allocation thus creating an environment within which exploitation and unfair competition can flourish.

BACKGROUND TO THE KENYA STUDY

The country of Kenya lies astride the Equator. Latitude 0° runs across the very middle of the country and the most northern and southern points are at - or very close to - 5° North and 5° South. Elevations range from sea-level to the peak of Mount Kenya at 17,058 feet. Physically, the country is predominantly a high plateau split in the west by the great African Rift Valley, with a decrease to approximately 4,000 feet at the Lake Victoria basin in the extreme south west.

With the exception of a small coastal strip, the climate is greatly influenced by the extent to which altitude tempers the effects of the South-East Trades. It has been calculated⁷ that 72% of the total land area of approximately 220,000 square miles can expect less than 20 inches of rainfall in four out of every five years and only on 3% of the land area can more than 50 inches of rainfall be expected in four years out of five. This means that the agricultural (i.e. crop producing as opposed to extensive livestock production) potential can be developed only within limited geographical areas.

Within these areas, however, which apart from small pockets of higher land in Coast Province, consists mainly of Central Province, much of Western and Nyanza Provinces and Nandi and Kericho districts and the predominantly large farm (former White Highlands) area of the central Rift Valley, great progress has been made since the mid-1950's. The main feature of agricultural development policy has been the commercialization of the small scale producer. Prior to independence, this was achieved in the main through the introduction of a concentrated programme of land consolidation and registration in the high potential small farm areas which was at least in part regarded as a necessary first step before the large scale development of cash cropping - particularly the dominating export crops of coffee, tea and cotton.⁸

7 Francis F. Ojany - The Geography of East Africa, Chapter 2 in Ogot and Kieran (Editors) - Zamani. East African Publishing House, 1968.

8 E.S. Clayton - Agrarian Development in Peasant Economies. Pergamon Press, 1964, Chapters 1, 2 and 3.

The land consolidation and registration programme has been continued since independence. The period 1964-72, however, also saw the intensification of agricultural research - with the most spectacular results coming from the hybrid maize programme - and the expansion of the extension service. Importantly, this relatively short period of time saw the transfer of over 1½ million acres of high and medium potential land from European to African occupation. Almost 1 million acres have been transformed into individual small farms under the settlement programme and over ½ million acres have passed into new ownership but without sub-division. The whole rationale of the Settlement Programme is based on commercial agriculture. Although a small number of schemes include tea, cotton and sugar in their budgeted development programmes, the major short term impact on total marketed production has come from pyrethrum, milk and maize. Many of the central Kenya schemes were also planned to produce potatoes and a range of fresh vegetables.

Agriculture remains the dominating sector of the economy whether measured by contribution to Gross Domestic Product, export earnings or employment. The sector contributed approximately 35% of G.D.P. in 1969 and almost 60% of the total value of exports - including processed items. Employment is more difficult to calculate, but approximately 35% of all wage employment is earned by agricultural workers. In terms of overall employment, in excess of three quarters of all family heads derive their income from the land.

Over the second Plan period (1970-1974) Gross Farm Revenue is projected to increase at an average rate of 6% per annum with the rate of growth for crops alone in the region of 6.8%⁹. The Government also recognized, however, and has expressed through planning documents, that there is an increasing need to explore possibilities for diversification of production away from the traditional export crops. In particular, the world market for coffee and tea is expanding relatively slowly and pyrethrum, cotton and - most especially - sisal export prospects are continually affected by bouts of competition from synthetic products.

It is in this light that increased attention has been paid to the prospects of expanding production of fruit and vegetables for both export and the home market.

9 Development Plan, 1970-74, Government of Kenya, 1969.

Apart from important diversification prospects, there is also a further related dimension which concerns the nutritional significance of fresh fruit and vegetables, in that they provide the bulk of vitamin A and vitamin C values in the average diet. In a country such as Kenya where a significant proportion of the population is from time to time malnourished due to carbohydrate dominated diets, the importance which can be attached to increasing the production of fruit and vegetables for home consumption and sale in local and urban market centres cannot be overstressed.

Clearly with good reason, the production of a wide range of relatively minor crops is to receive increased attention in the future. In these circumstances it is apparent that there is a need to appraise critically the marketing systems for these crops. We can now review some aspects of the main findings of the study on which this paper is based.

THE MAIN FINDINGS

Note that as some of the research findings relate to the Case Study areas it is necessary to indicate what these areas were and where they were located. A preliminary search for suitable case study areas in which the first stages of fruit and vegetable marketing could be studied in some detail coincided with the inventory study stage of the Special Rural Development Programme.¹⁰

Fourteen areas were selected in 1968 by an inter-ministerial committee as representative in a broad sense of the problems of the development of the rural areas. In an attempt to contribute further information to the inventory survey - on which the policy of future integrated development hinged - the decision was taken by the writer to include six out of the fourteen areas as case study areas within which the production and marketing of fruit and vegetables would be studied in some depth. Most of the data collected in the six areas was analysed in 1969 and a report on each area submitted to the co-ordinating agency in the Kenya Ministry of Economic Planning and Development. Since that time it has been possible to analyse the collected information still further, and make somewhat less hasty judgements about where improvements could be made and new initiatives developed.

¹⁰ Heyer, Ireri and Morris. op. cit.

The case study areas are listed below:

<u>Province</u>	<u>District</u>	<u>Division</u>
Western	Kakamega	Vihiga
Nyanza	Kisii	Irianyi
Central	Muranga	Kiharu
Eastern	Machakos	Yatta
Coast	Kwale	3 locations
Coast	Taita	Wundanyi

We can consider the main findings under the following headings -

- i Structure and organization
- ii Transportation
- iii Margin Analysis
- iv Processing
- v The Role of Government
- vi Co-operatives.

i Structure and Organization

(a) The Rural Markets: Classically, the overall structure of the marketing system for fresh fruit and vegetables is characterised by varying degrees of producer involvement depending upon a number of factors such as type of produce, distance from main market and the size and nature of final demand. Typically of African countries with the vast majority of population earning their living and/or achieving subsistence from the land, there are two parallel marketing systems in Kenya, one which caters for rural demand and the other which is geared to supplying the main urban markets. It is apparent that at the present time these two systems overlap to a rather limited extent in that the local market centre is not widely used as a collection point for produce destined for the main urban centres of Nairobi, Mombasa, Nakuru, Kisumu, or the other townships of any size. A more detailed investigation into the final destination of produce reveals a number of exceptions to this as may be expected, and some of these exceptions were indicated by the case studies. That they are only partial exceptions can be seen from a few examples. Banana marketing in Kakamega and Kisii districts is based on trader operation at local markets but these are specialised markets dealing in the main, only with bananas for 'export' to the large areas of consumption - Nakuru, Nairobi and Mombasa. Another partial exception are the traders who operate at market centres but do not directly compete with local consumers in the market place. An example of this are the traders at Tala in Machakos District of Eastern Province, who operate their own individual buying centres in close proximity to the open air market. The

traders only buy the highest quality produce available as it is destined for Nairobi and much of the produce purchased (French beans, chillies, cucumber for example) is not to be seen in the retail market.

The closer the rural market centre is to the main area of demand, then the more exceptions there are to the rule that they do not act as collection centres. Even so, this has only been seen to be the case in Kenya at points well served by good roads to Nairobi. Thus, Makuyu market near Fort Hall, only a few yards from the main tarmac road and 50 miles from Nairobi exhibits this characteristic as far as bananas are concerned. Traders go to Makuyu and buy those bananas surplus to local requirements. This is reflected in a practice which has developed over the years; women who bring their bananas to the retail market do not generally break them up into 'hands' or single fruit until a deal has been made with a buyer. In the afternoons as the retail trade slackens the whole bunches are carried out of the retail market and sold to traders who transport the produce to Nairobi by bus or lorry. Even at Makuyu however, the wholesale trader does not buy directly in the retail market. Similarly at Karatina - an important collection point for vegetables to Nairobi - there is a separate wholesale market serviced not only by local producers (particularly in the peak seasons when supply exceeds local demand in the retail market) but also by traders who buy from producers further north around the slopes of Mount Kenya and sell again to the Karatina traders who supply Nairobi.

Throughout Western, Nyanza, Central and Eastern Provinces and the small farm districts of Rift Valley Province, the local authority markets are important agencies in meeting local demand. This applies to a lesser extent in parts of Coast Province - particularly Kwale district - where County Council markets are geared more to cattle auctions than the trade in fruit and vegetables. In all these areas there are also unofficial markets which have evolved in small township and village centres often with one main market day each week and a small number of sellers who trade in a very limited range of produce every day. The limited range of fresh produce is, in fact, one of the main features of the rural markets in Kenya. This, in turn, reflects a limited range of demand for fresh items.

In the majority of markets, the trade in fresh vegetables and fruit is overwhelmed by the trade in maize, dried peas, beans, grams, lentils and rice. These items together with non-food items such as pots, baskets, sisal ropes, paraffin, medicines, tobacco and snuff are the mainstay of the weekly or twice weekly rural markets. Such occasions are also important social events, consequently attendance, as in markets throughout the world is not necessarily related to the ability or inclination to buy or sell. Fresh produce is usually

sold in an area separate from the maize and pulses. Bananas are sold per piece or by the bunch and most other fresh items by the pile. Cabbages are sold per piece or 'each'. No produce is sold by weight.

The following measures were amongst those suggested as a means of removing some of the constraints inherent in the rural marketing system.

- (i) Entrance fees to County Council Markets: that is x cents per vendor regardless of how much or how little he has to sell should be discontinued.
- (ii) Market fees should be on the basis of the quantity of produce brought in to the market.
- (iii) With the aim of standardising the rates charged all County Councils in Kenya should be asked to submit a copy of their rates schedule to the Ministry of Local Government.
- (iv) This Ministry in conjunction with the Ministry of Agriculture, should draw up a schedule of recommended rates which would, for example, distinguish between a small basket, a debe, a box or case and a sack.
- (v) Consideration should be given to enacting local government legislation which stipulates that a certain proportion of market receipts should be spent on market improvements rather than go into a common county council fund. For this purpose it would be necessary to distinguish between market revenue derived from cesses on produce together with rents from market stalls selling perishables and that portion of revenue which accrues to the county council from rents paid by shop and hotel keepers within the market precincts. It is here considered reasonable to allow revenue from the latter to go into a common fund and not be subject to the proposed allocation to meet the needs of market improvements.
- (vi) In connection with (v) most of the county council markets seen in connection with the study showed considerable scope for improvement. In order of importance the main requirements were:

- (a) Improved surfacing of the market area in the case of larger markets.
- (b) The provision of shelters from sun and rain to supplement the natural shade from trees.
- (c) Improved water and toilet facilities.
- (d) More intensive supervision (at least in the short run) to ensure that standards of cleanliness are maintained.

(b) Urban Markets: The study concentrated on five urban centres; Nairobi, Mombasa, Nakuru, Kisumu and Nyeri. Nairobi and Mombasa both operated wholesale markets separate from the retail trading areas. In the provincial capitals of Nakuru, Kisumu and Nyeri a wholesale section operated from within the main retail

markets. This made it particularly difficult for market authorities to distinguish between the different components of the trade and appeared to have encouraged an inflexible attitude which discouraged direct selling by producers or country traders into the retail trade rather than via a wholesaler. Nevertheless in all the main markets direct selling to retailers was carried out and only in Nairobi (where City Council regulations routed all produce consigned to the city by lorry vanette or train through the Wholesale Market) was any effective policing of the situation in evidence. In all urban retail markets including the 'high class' City Market in Nairobi there was a marked degree of 'pitch' or 'market site' division. This applied even on those stalls which were permanent structures. This highlights the significance of marketeering in the so-called self employed 'informal' sector of many of the larger towns and cities. One feature of the wholesale markets in Nairobi and Mombasa was the small wholesaler who had a clear cut role to play in 'breaking bulk' and supplying small quantities of produce to hawkers and occupiers of small stalls in the lower income residential area markets and squatter locations. In the Nairobi wholesale market a small area was set aside for this mini-market where boxes, bags and bunches were broken down into saleable portions and distributed on the spot to retailers.

An interesting feature of the Mombasa wholesale market is that it had the only fruit and vegetable auction system in operation in the country. The auctioneers, numbering between 14 - 18 in 1969, worked on the basis of a 5% commission from the vendor and paid a small monthly fee to the Municipal Council - the receipts from which were clearly insufficient to maintain and staff the market area.

In overall terms, urban markets for fruit and vegetables in Kenya appeared to demonstrate a high degree of competition with large numbers of relatively small operators. Only in the 'higher income' sections of Nairobi and the provincial capitals markets was produce sold by weight. In town centre markets the clientele were of very mixed income levels and sellers ranged from a small number offering a wide range of produce to those operating a small pitch and selling only bananas, cabbage and various 'green leaves' or relishes. In lower income residential areas the typical pattern is of a large number of sellers but a very limited range of produce. Cabbage, bananas, sugar cane lengths and cassava were the most common items sold in these areas.

Apart from the two central markets in Nairobi and Mombasa hygiene standards were often seen to be far from ideal. This often revolved round a lack of facilities for waste disposal and the cramped confines of the market enclosures. Market areas in shanty suburbs of Nairobi, although generally uncontrolled from either a public health or general law and order viewpoint, at least had the advantage of less constricted operating conditions.

(ii) Transportation

On the basis of the case studies it was observed that road transportation methods - rail is relatively insignificant except for bananas from Uganda - vary widely between different parts of the country.

Since there appears to be a strong positive correlation between the efficiency of the transport system in any area and the general level of its economic performance, it may be instructive to point out some of the more obvious contrasts between the transport facilities in the more backward and the more progressive fruit and vegetable producing areas.

The 'backward' areas (which include Kakamega District, Central and South Nyanza Districts, much of Coast Province, and to a lesser degree, Muranga District) are characterised by particularly poor secondary roads, often impassable in wet weather; a shortage of lorry transport, and a consequent tendency to depend on buses or small vans, even for long distances; and, partly as a result of this, a lack of any spontaneous impetus among traders to form into groups. In some areas, such as Kakamega district, bus rates are so much lower than those charged by private transporters that it is much cheaper for a large number of traders to travel with their individual lots on a bus than for one or two 'group representatives' to accompany an equivalent combined load on a lorry. In somewhat more favoured areas, however, like Muranga, the cost of the individual/bus system is considerably greater than the group/lorry system, provided the lorry is fairly full, but traders still often use the former, partly because they are not always certain of being able to fill a lorry and partly through lack of experience and organisational ability. In theory, a group/bus system would probably be the cheapest of all in most parts of Kenya, but in fact it is extremely uncommon, because once traders have acquired a sufficient level of sophistication to form groups they are prepared to pay a little more to forgo the inconveniences attached to transporting produce by bus. These include departing and arriving at times which are often inconvenient, the need to provide further transport to convey produce from the bus station to the urban market, lower standards of loading and unloading, and, worst of all, if the rural collecting

centre does not happen to be at the terminus of the bus route, uncertainty about finding room for all, or even part, of the load on top of the vehicle.

In the 'progressive' areas, however (which include Kiambu, the Karatina/Nyeri area, the area round Nakuru and most of the fruit and vegetable producing areas of Machakos District and Kisii), secondary roads tend to be somewhat better, private transport is far more easily obtainable at reasonable rates, and traders are much more enterprising and organized. Kiambu, the most highly-developed and prosperous fruit and vegetable producing area, contains a number of individual producers and traders who transport their own goods almost exclusively, in vans and small lorries, but in areas further from Nairobi the most frequent pattern is for groups of producers or traders to hire larger lorries. In certain parts, however, group co-operation has developed much further. In areas of Machakos District, for example, producers and traders have formed large groups with elected officials who organize the sale of members' produce on their behalf.

Even these larger organisations use hired transport rather than their own. An exception to the general rule is a group of banana traders in Kisii who had formed themselves into a company and bought their own lorries. They made considerable use of hired transport too, however. Co-operative societies were not much involved in transporting fruit and vegetables; most of their involvement in this field comes from hiring their lorries to members who carry their own produce.

Cheaper private transport is unlikely to become available in the more backward areas until they become generally more prosperous (better roads, will of course, facilitate this), unless some form of temporary subsidy is introduced. In the immediate future the best organizational pattern to be aimed at seems to be some variant of the one which has evolved in many of the more 'progressive' areas - the producers' or traders' group which hires its transport from a small operator who is something of a specialist in carrying perishable produce. The advantage of traders hiring, rather than owning their vehicles are likely to be fairly clear-cut in most cases, in view of the strong seasonal fluctuations which are a feature of fruit and vegetable marketing. (The fact that the banana traders in Kisii own some lorries only serves to reinforce this point, inasmuch as there is relatively little seasonality in the supply of bananas.)

(iii) Margin Analysis

It is not the contention of the writer that efficiency of a marketing system can be assessed solely by an analysis of price spreads and distributive margins. The size and 'stickiness' of margins is a continuous area of debate by no means confined to the academic researcher. It is an area in which it is difficult to avoid value judgements and one in which in built prejudice plays no small part.

Bauer and Yamey have commented¹¹ that:

"The centuries old belief in the unproductive nature of trading activities and of traders is still widespread. Even those who do not subscribe to crude notions about the alleged unproductivity of trade are frequently not able to clearly analyse the nature of the services performed by traders."

Although there is no room here to detail the results of prices and margins analysis it is perhaps instructive to indicate the range of questions which this aspect of the research study was designed to answer:

- (a) Is the degree of price fluctuation over time significant and if so are the causes inherent in the system or mainly determined by supply factors?
- (b) Do variations in price levels between one place and another appear acceptable in the light of the type of mainly perishable produce marketed, the cost of transportation and the main producing areas?
- (c) How do trading margins vary between one crop and another and how do they relate to the stability or otherwise of prices at wholesale and retail level?
- (d) How far can the differences in the size of the margins and the variations from week to week be explained by the nature of the system of marketing? In particular how are they influenced by the role of intermediaries?
- (e) Does the time series analysis reveal any clear indication of the way retailers fix their operating margins?

Analysis of seasonal trends and locational variations indicated a high degree of week by week and day by day retail price variation, particularly in those crops such as cooking bananas, paw paw, pineapples and tomatoes. The basic temperate produce - potatoes, carrots and cabbage, showed much less price movement, a feature determined mainly by larger traders operating at wholesale level, better price information and a much less fragmented distributive system than was the case with many crops.

11 P.T. Bauer & B.S. Yamey - The Economics of Marketing Reform.
Journal of Political Economy, Vol.62, 1954 pp 210 - 235.

Locational differences were clearly a reflection of the production pattern in the country influencing the distances between main supply sources and centres of urban population.

The detailed margin analysis which was confined mainly to Nairobi and Mombasa indicated a wide range of differences from one crop to another which was not by any means predominantly determined by the extent to which the market was at the time of the analysis, over or under supplied.

Thus, for example, cabbages and carrots are seen to be crops with relatively large price spreads between the point of first sale in the wholesale market and the final sale to the consumer. Potatoes and cooking bananas show much smaller margins with tomatoes and onions fitting in between, but with a greater degree of week by week fluctuation.

In seeking to explain these differences it is necessary to highlight certain aspects of the Nairobi distributive system. It is perhaps tempting to ascribe the relatively high margins on carrots and cabbage to the number of links in the distributive chain between point of first sale in the wholesale market and point of final sale in the retail market.

All the evidence collected suggests that the high margins between point of first sale in the wholesale market and final sale in the retail market for cabbages and carrots are primarily determined by the retailers' operating margins. This does not mean that intermediaries do not exist - even though no one trader interviewed in the survey of middlemen listed cabbages or carrots as his main trading item. As an important item in the lower income markets, cabbages are purchased by trader/retailers in sacks and then distributed in smaller amounts to individual stallholders. This transaction 'swallows up' some of the margin, although no evidence is available on how big the proportion might be. An important consideration in comparing margins on cabbages with potatoes (for example) is the relatively high wastage rate associated with cabbages. This is not only associated with the problems which inevitably beset the retailer of fresh green produce in a hot climate where storage arrangements are limited or non-existent at the retail level, but equally importantly is caused by the rough handling and unsuitable packaging of cabbages during their transportation to Nairobi.

Such an explanation cannot be applied to the same degree as far as the margins on carrots are concerned. Except in the main rainy season, carrots are not so perishable as cabbages. One consideration which does lessen the significance of the analysis of the carrot data is related to the alternative marketing channels. Carrots do not have the importance that cabbages have as a regular item of lower income diets. They are however traded not only through the Central

Wholesale Market but also through small wholesale shop owners in the city who also supply the Central Retail Market and higher income residential area shops. Carrots moving through the Wholesale Market tended to be of a lower quality on average. This highlights one of the difficulties connected with this sort of price spread analysis. Prices compared in the study were between a relatively low quality wholesale price and a relatively high quality retail price. In other words the product was not the same and therefore the value of the analysis was significantly less than it first appeared. Clearly the more diverse the supply sources and the wider the quality range then the more difficulty in such an analysis.

Of all the crops studied margins on cooking bananas were the only ones calculated which came at all close to a pattern of relatively small changes in retail price, together with fluctuating margins, indicating that retailers may, of necessity or by deliberate design, average out their daily or weekly returns and only change their selling prices in response to a persistent trend in their buying price. In the markets of Nairobi and also the provincial towns, the sellers of cooking bananas at retail level are only very rarely found to be selling other items. This does not mean that the number of sellers is small and the trade concentrated; on the contrary it is characterised by small scale operators with little capital, meagre equipment and poor storage facilities. The buying public are on the whole from the lower income range and they are dealing with a commodity in plentiful supply and with an increasingly well-organized and powerful trader network. It is, therefore, not surprising that overall average margins are comparatively small and that rather than raise their price retailers will even bear a loss and hope to recoup later.

It was outside the scope of the analysis to make any judgements on equity grounds about the size of the distributive margins isolated. It is of interest to note, however, that there was a considerable degree of consistency between the markets. For example, the margins on cabbage and carrots are comparatively high in all cases and the margins on potatoes and cooking bananas comparatively low. Only in the case of tomatoes, which have the greatest week by week fluctuation, is there any very apparent difference in the general direction of price movements at the different retail levels.

(iv) Processing

It is clear that building up a fruit and vegetable processing outlet in a developing country presents the initiator of the enterprise with a range of difficulties. These were highlighted in that part of the Kenya study which was concerned with an appraisal of the operational constraints of the three main processing companies.

Paramount among these is the problem of maintaining continuity of supply of raw product. This in turn is determined by the ability and willingness of farmers to produce the required crops at yield levels which will produce an adequate return to the grower. Although there have been some difficulties with carrots being tempted away from contracted dehydration supply, the competition from the fresh market has not been a direct factor in determining the below full capacity working of all the processing plants in recent years in Kenya. Nor has the reason been built in seasonality problem - which has in all cases been compensated for by the deliberate diversification policy. Rather, quality maintenance and standardization of raw products have created most difficulties. This is very much related to a belated realization that industrial processing of fruit and vegetables in Kenya is not a second or third best market option or a last chance dumpingground for surplus produce. The extremely rare purchasing forays into the Nairobi wholesale market by the processors is a clear indication of this. With the gradual realization that there is in most cases no clear produce pyramid in Kenya with Fresh Export on the top, Local Fresh in the middle and Processing at the bottom, has come a concentration of research into experimental and commercial testing of the varieties of produce required by the processors.

It is clear that market organisation is a secondary problem. Nevertheless the inability or unwillingness of two of the main processors to arrange formal supply contracts for much of their produce (even in some cases despite providing seeds) is difficult to understand and can perhaps best be ascribed to an unwillingness to commit themselves to produce of unsuitable or very variable quality. Where the Government has intervened to organize supply to processors, as with pineapples and passion fruit, the attendant problems have once again been predominantly of a technical nature. The Government's major intervention in the processing industry has been in the safeguards and guarantees given to California Packers (Delmonte) through providing land for estate production. Had this not been done, the refinancing and management provision for the Thika factory would not have been forthcoming. It is significant that the problems surrounding the successful operation of large or medium sized processing operations for fruit and vegetables are such that intervention of such a nature was necessary to protect the industry.

(v) The Role of Government

We can consider the involvement of Government at different levels in the marketing of fruit and vegetables in Kenya.

(a) Some aspects of overall control: Government legislation to control the marketing of fresh fruit and vegetables has been on a very limited level compared with that operating for most other crop and livestock products in Kenya. This has been for two reasons: one is that even taken together, all fruit and vegetables crops have been (and still are) of relatively minor importance compared with the major export items. The second reason, which, it is argued, still applies, is that fruit and vegetables are in a comparative sense, extremely perishable items and do not, taken as a whole, lend themselves to a rigidly imposed marketing structure.

In 1967 the Horticultural Crops Development Authority¹² was set up "to bring as quickly as possible an acceptable degree of order into the production and marketing of horticultural produce".

Any authority dealing with (in theory) over 100 crops and with wide powers has a serious problem of selecting spheres of operation where it can best make a contribution. This has clearly been the case with HCDA. There is no indication that the crucial diagnostic exercise was carried out before the Authority dived headlong into various mainly regulatory activities.

The Authority appears to have approached its activities with an attitude which assumed the need for closer control of trading activities. In one area (onions) in which they made an early contribution through trade licensing and appointed designated agents of the Authority it could well be argued that less rather than more regulation was necessary. In the case of onions artificially high prices were fixed in an attempt to boost the incomes of farmers on a remote irrigation scheme - a clear case of using market intervention to try and solve problems best tackled by other means. In others such as potato marketing the market situation was overwhelmed by the great need for technical improvement. Here again the degree of trade regulation and artificial concentration of the wholesale trade into a few hands stifled the industry at a time when such measures were simply unnecessary. The 'symptoms of the disease' were being treated rather than the 'disease' itself.

(b) Partial Control: One example of this is the legislation passed by the Kenya Government in 1967 which restricted trading in certain items to citizens of the country.¹³ The act provided that non-citizens may only trade in what was termed 'general business' areas, but were prohibited from dealing in certain specified goods. The act was applied in earnest in the second half of 1968 and the first

¹² The HCDA Order 1967. Legal Notice No.229. Kenya Gazette Supplement Number 87.

¹³ Trade Licensing Act No. 33, 1967.

part of 1969 and as vegetables and many fruits were included in the prohibited items the distributive trade particularly in Nairobi, but also in Mombasa, Nakuru and Kisumu was affected.

The combination of the Trade Licensing Act and the legislation on onion trading described above had the effect of disturbing the established pattern of trade in onions in Nairobi, Mombasa and Nakuru. Some of the originally appointed agents of the HCDA were unable to trade as they were prohibited by the execution of the powers of the Act given to the licensing authorities. As a result for a short period in December, 1968 and January and February of 1969, much of the trade passed into the hands of what can best be described as whole-sale hawkers and the controls imposed by the HCDA fell temporarily into abeyance. The situation was partially rectified by the issuing of public warnings by the authority which made it clear that all onions intended for retailing must be purchased exclusively from the agents or sub-agents of the HCDA and that retailers or wholesalers other than the appointed agents of the authority were prohibited from transporting onions into the scheduled urban centres of Nairobi, Mombasa and Nakuru. The net effect was to create a near monopoly position for the one company as agents in Nairobi and Mombasa.

The trade in Asian vegetables and tomatoes was not affected by the licensing restrictions to any significant degree at the wholesale level. At the retail level it was apparent (although figures were not available) that one 'duka' after another in the trading quarters of Nairobi had to discontinue its trade in these items. With a range of Asian vegetables this had the effect of increasingly concentrating the trade in the hands of the main exporters of this produce as, although tomatoes were also sold widely in the municipal markets, the Asian vegetable trade was not likely to attract new African traders to replace the non-citizens.

It thus appeared that the effects of the legislation which aimed at opening up certain elements of the distributive trade to all, and particularly to Kenya citizens, resulted in the short run in increased concentration in an industry where concentration had not previously been a major source of concern on grounds of either equity or efficiency.

A second less contentious area of partial control concerns local authority policy on marketing infrastructure. The case studies and the main urban area studies showed a high degree of variation even within a limited geographical area in the physical amenities provided. Although there does not appear to be any sensible alternative to the maintenance of the role of local authorities (both urban and rural) as providers of these amenities, the case

study findings clearly indicated the need for a changed approach to their provision. A break even policy would, as a radical first step, remove the practice which was observed in many areas of using market revenues as a continuing and reliable source of local government funds but ploughing nothing back in way of improved facilities. In both the urban and rural market situations it can be justifiably argued that market amenities should be improved as a necessary first step before other government supported and instituted measures such as grading and standardisation legislation can be effectively introduced.

(c) Grading and Standardisation: In the context within which it is discussed here, grading may be defined as a process of screening the supply of produce to reflect the preferences of different consumer groups and to keep unsuitable or diseased produce off the market. Standardisation refers to the containers and packaging used and has direct and important effects on the quality of the produce.

The grading of produce is primarily justified as a means of better satisfying consumer requirements. Thus in designing grading systems for agricultural and livestock produce in developing countries it is critically important to observe consumer preferences. As preferences differ internationally not only between people of different race and culture but also according to income levels and expenditure patterns, it is dangerous to transpose standards from one country to another except where they relate to export produce.

Only a very small proportion of the fruit and vegetables sold through wholesale markets in Kenya go through any kind of grading process other than the removal of obviously diseased produce. As the three main fresh produce exporters in 1969 were also the main suppliers of the high income retail outlets in Nairobi it was possible for them to grade for particular markets amongst a selection of produce, the overall quality of which was noticeably higher than much of the 'best' in the wholesale markets. This means that some first stage selection and grading was carried out at the farm level by those growers supplying indirectly to the premium internal and export markets. This appears to involve careful screening to remove diseased and deformed produce (which depending on the state of the market is often disposed of through channels which eventually lead to the wholesale markets) and by size to remove smaller temperate produce - potatoes for example.

It is necessary to ask the question as to whether legislation is necessary to ensure that desirable standards of quality are maintained and that the market gets what is required. The answer in terms of Kenya experience would

appear to be that legislation is required as a means of introducing essential standardisation of packing, but that it is not necessary to apply this to standards by which produce may be graded. The essential argument to support this is that the main distinction made by the vast majority of consumers of fruit and vegetables in Kenya is between diseased, bruised and wilted produce and acceptable produce. As bruising and wilting and some of the disease inflicted on produce is associated with the methods of storing and transporting it, standardisation of packaging should, it is argued, go some significant way towards meeting consumer requirements.

Clearly improvements can be made at the level of the main wholesale markets and will involve concentrating inspectors on the prime function of produce inspection to remove diseased, deformed and marked produce. This should be done before point of first sale, but to create the conditions within which it can be effectively carried out will involve fundamental changes in the organisation of the main wholesale markets. It is an urgent area of clearly defined co-operation between the public health departments of the main urban areas and municipal market authorities and one in which some overall direction from the HCDA or an equivalent body appeared necessary.

The brief analysis outlined above should not be interpreted as an attack on the underlying principles of grading. Rather it is an interpretation of the requirements at a particular stage of the development of the industry. These requirements will change as consumer preferences change and become more explicit. By concentrating on basic improvements on the lines indicated the industry would be better able to amend its grading practices to suit new situations as they develop without the hindrance of an existing oversophisticated and likely inoperable structure.

(d) Market Information: An additional important aspect of the role of government concerns the collection of data on flows of marketed produce. This has significant importance for supply planning and it is sufficient here to emphasise that the findings in the case study areas pointed to a need to separate the functions of produce inspection and cess collection as a means of not only achieving a more effective performance of these functions but also presenting better opportunity of devising a system of collecting sensible statistics on marketed throughput.

This would be aided by the appointment of specialised fruit and vegetable marketing officers within the Department of Agriculture - at least in the most important supplying districts.

(vi) The Role of Co-operatives

"The co-operative idea is without doubt of high ethical and moral value and the co-operative movement is of the greatest social and communal importance, but the underlying daily work is of a definitely materialistic, sober and purely economic character, the non compliance with which can have grave consequences".¹⁴

A comprehensive survey¹⁵ in 1968 revealed only six active societies outside the settlement areas which specialised solely in marketing fruit and/or vegetables. Significantly 4 of these were in the case study area of Wundanyi Division of Taita District in Coast Province. The case study carried out in 1969 revealed that only one of the four was still operating consistently. The two others were both pineapple co-operatives. One other at the Coast - the relatively successful Malindi Farmers Co-operative - handling mangoes only - was not reported by Gustbee's Survey, nor was Tuthoo Society in Central Province which operated for a limited period of the year for the purchase and transport of plums.

In addition a very small number of societies outside the main settlement areas also marketed some fruit and vegetables on a limited scale and irregular basis, but no quantitative information was available on these activities in 1969. It is also significant that no such activities were found in the case study areas. Thus, the picture is one of a very insignificant involvement by co-operative societies outside the settlement areas; insignificant both in terms of the total quantities marketed and the overall turnover of societies.

In reading through district and even provincial reports of the Department of Agriculture, it is common to find references to the need for establishing co-operatives to market perishable crops and also recommendations that such societies should be established. These sort of recommendations seem to take little cognizance of the recent history of failures and enforced dormancy. In all the case study areas there was a recent history of the failure of co-operative forms of marketing for perishable produce, but this did not prevent the maintenance of an attitude within the Department of Agriculture in those areas which generally encouraged the formation of new organisations or the revival of dormant ones.

¹⁴ Wilhelm Haas on Co-operative Day, Strasbourg, 1905. Quoted in Franz G. Helm - The Economics of Co-operative Enterprise. University of London Press, 1968.

¹⁵ N. Gustbee - A Survey of Active Co-operatives. Department of Co-operatives, 1968.

In a number of areas in Kenya it is apparent that there has been a conflict in attitude and approach between the Department of Co-operatives and individual growers who wish to establish a specialist marketing society or revive an old one. The policy of the Co-operative Department as far as marketing the produce of small farms is concerned has been to increasingly favour multi-crop societies. This is understandable and there are no doubt good economic arguments to support it. It does not, however, harmonize with the attitude of some producers who fear that the dominance of the one or two items of turnover will be reflected in the membership of the management committee to the detriment of producers of less significant items. It is also true as the Machakos case study shows, that members of some relatively successful societies are loth to become involved in what they fear will be a less viable area of marketing. Thus, for example, the coffee farmers may not be inclined favourably towards vegetable producers.

As far as Settlement Scheme areas are concerned and on the basis of the limited information available there are clear signs that the major proportion of output of potatoes and other vegetables has been marketed directly rather than through the co-operative society, taking all schemes and societies together. Data on total co-operative society turnover of produce from schemes showed that less than 1% of total turnover was derived from sales of vegetables and potatoes. Independently collected acreage and output data appeared to indicate, however, that even allowing for a relatively high proportion consumed but not sold, the total value of produce marketed through all channels was considerably greater. Although no comprehensive survey of the channels through which potatoes and other vegetables from Settlement Schemes are marketed has been carried out, the overall proportion sold through the co-operative societies is unlikely to exceed 10 - 15% of total sales over the period 1967 - 69. On a small number of schemes there are indications that the proportion may be higher than this.

An experienced and well-accredited researcher has commented as follows about co-operatives in general:

"Introduction of co-operatives to Tropical Africa has been and for the foreseeable future can be expected to continue to be a hazardous undertaking. A major research need is analysis that will prune the rampant optimism about the role of co-operatives in the development of tropical African Agriculture."¹⁶

¹⁶ Marvin Miracle, "An evaluation of attempts to introduce co-operatives and quasi-co-operatives in Tropical Africa", in Anschel, Brannon and Smith (Editors) - Agricultural Co-operatives and markets in Developing Countries, Praeger, 1970. p 313.

In the light of such a statement, it may seem hardly justified to seriously consider the increased application of co-operative forms of organization to marketing of fruit and vegetables, on the grounds that if the increased involvement of co-operatives in general is to be questioned, the difficult area of marketing perishables should be particularly avoided.

This is not, however, a satisfactory approach as the very features which make the marketing of fruit and vegetables such a difficult operation in many cases, may not be handled any more efficiently by non-co-operative types of marketing channels. Where, for example, problems of distance from market are acute, the co-operative may be the only type of organization which can organize the supply from individual growers and collect together produce in significant quantities to make long distance transportation feasible. It is indeed significant that the apparently most successful fruit and vegetable co-operative marketing ventures in East Africa in recent years have operated from places remote and far removed from the main internal market. This applies to Kigezi in Uganda, to the Ngangawao Society in Taita District of Coast Province and to the Malindi Mango Growers.

The most common approach in Kenya - as in the rest of East Africa - has been for the Government, through the Department of Co-operative, to be the main initiator. Hyden has expressed it succinctly:

"...they (the co-operatives) certainly do not constitute a 'movement' in any ordinary sense; they are, rather a hand maiden of the state".¹⁷

Any over-enthusiasm for co-operatives is dangerous practice, particularly in view of the management problems which have been posed in the marketing of much less 'difficult' crops. There has been a tendency in Kenya to prescribe formal co-operatives when the problems might have been solved by other means.

Little attention has been paid to fostering spontaneous small groups of producers who wish to join together to sell or transport their produce but do not wish to formally organize a society. Throughout Kenya there is evidence of this kind of activity, and these small informal groups have an important role to play, but it should be accepted that this is best carried out outside the less flexible framework of the 'official' co-operative society - at least in the short run. Clearly such groups should not be harrassed into registration.

17. Goran Hyden, 'Government and Co-operatives', in Development Administration - the Kenyan Experience, edited by Goran Hyden, Robert Jackson and John Okumu, Oxford University Press, Nairobi, 1970. p. 315.

If it neglects both alternative and complementary parts of the marketing system in favour of concentrating on encouraging the creation of co-operative societies to develop the marketing of fruit and vegetables, the Kenya Government is in danger of making two doubtful assumptions. The first is that co-operative forms of marketing organization will be in some way necessarily 'better' for producers through higher prices and more assured outlets. This assumption, which also ignores the consumer viewpoint, may be a valid one. By short cutting the 'dominating' trader or the 'exploiting' transporter or middleman, the producer may be able to capture a bigger share of the final consumer price. The point that has to be made is that in the absence of relevant studies, this assumption may equally be invalid.

In this aspect, as in many other aspects of small scale marketing systems, there appears to be an urgent need for more applied research.